

**Serial No.:** 09/532,708  
**Filed:** March 22, 2000

**REMARKS**

Claims 12, 16-18, 20, 22, 28, and 33 have been amended. Claims 12-24, 28, 33, and 49 are pending in the application.

The Commissioner is authorized to charge any additional fees including extension fees or other relief which may be required, or credit any overpayment to Deposit Account No. 06-1300 (Our Order No. A-64580-4/RFT/NBC).

Please direct any questions to the undersigned at (415) 781-1989.

Respectfully submitted,

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**In the Claims:**

12. (Amended) A method of high throughput integrated genomics comprising:
  - a) providing a plurality of enhanced homologous recombination (EHR) compositions, wherein each composition comprises:
    - i) a recombinase;
    - ii) a first and a second targeting polynucleotide, wherein said first targeting polynucleotide comprises a portion substantially complementary to a fragment of a target nucleic acid and is substantially complementary to said second targeting polynucleotide; and
    - iii) a separation moiety;
  - b) contacting said EHR compositions with [one or more] a library of target nucleic acids [sample(s)] under conditions wherein said targeting polynucleotides hybridize to one or more target nucleic acids [member(s)] of [one or more] nucleic acid sample(s) said library; and
  - c) isolating and cloning said target nucleic acid(s) wherein said [providing] isolating and [contacting] cloning are [done] performed using a robotic system.
16. (Amended) The method according to claim [1]12, wherein said target nucleic acid comprises single-polynucleotide polymorphisms.
17. (Amended) The method [of] according to claim [1]12, wherein said library of target nucleic acids comprises all or part of a cDNA library, genomic DNA library, genomic DNA samples, or combinations thereof.
18. (Amended) The method of claim 17, wherein said genomic DNA samples are [library is] from [a single] one or more organisms.
20. (Amended) The method according to claim 19 wherein at least one of said making, introducing and performing steps [are]is [done] performed using a robotic system.
22. (Amended) The method according to claim 21 wherein at least one of said making, adding, and determining steps [are]is [done] performed using a robotic system.
28. (Amended) The method according to claim [26 or 27] 12 further comprising[:] sequencing said [expressed] target nucleic acid.
33. (Amended) The method of claim [1, 13, 21, 23, 25, 26, 27, 28, 31 or 32]12, wherein

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said robotic system comprises a computer workstation comprising a microprocessor programmed to manipulate a device selected from the group consisting of a thermocycler, a multichannel pipettor, a sample handler, a plate handler, a gel loading system, a gene sequencer, an automated transformation system, a colony picker, a bead picker, a cell sorter, an incubator, a light microscope, a fluorescence microscope, a spectrofluorimeter, a spectrophotometer, a luminometer, a CCD camera and combinations thereof.